Enterprise Fund: Water And Sewer Authority (WASA)

Overview

The District of Columbia Water and Sewer Authority ("WASA") is an independent agency of the District of Columbia Government. The agency is responsible for maintaining and operating the water distribution systems, sanitary sewage and storm water systems, and the wastewater treatment plant located at Blue Plains. In 1999 WASA implemented an aggressive strategy to restructure many financial systems and address operational deficiencies. The projects identified in the FY 2001 Capital Improvements Program further support the direction of the agency to better serve the citizens of District and regional area.

Financial Plan

Traditionally, the District's Capital Improvements Plan is developed for a six-year period. However, because of regulatory requirements, WASA is required to develop its capital improvements plan over a 10 year period. The four additional years allow WASA to address major regulatory and environmental issues, which directly impact services, operations and address future rate increases.

Capital Financing and Reserve Policy

In order to secure the lowest cost of capital to finance WASA's long-term capital program, WASA will:

- Ensure a debt services coverage of 1.4x, exceeding WASA's bond indenture requirements of 1.2x.
- Ensure cash reserves equivalent to six months operating expenses - currently estimated at $90 million.
- Finance a portion of its capital program on a Pay-As-You-Go (Paygo) basis from cash reserves that exceed the $90 million reserve level. Thus, Paygo financing reduces the need for long term debt and ultimately lowers the debt service.
- Use alternative financing strategies based on rigorous financial analysis of capital and operating requirements.
- Match the period of debt repayment to the life of the asset.
- Finance capital equipment needs with operating dollars or short term financing instruments.

The WASA capital improvement program is financed from the following revenue streams:

- Revenue Bonds
- Contributions From Suburban Wholesale Customers
- Transfers From Operations
- EPA Grants
- Treasury Notes

- Interest on Bond Proceeds

Capital Improvement Program (FY 2001 Budget)

The Committee recommends the $139,933,000 spending plan for fiscal year 2001 for the following programs: $66,407,000 for the Blue Plains Wastewater Treatment program, $2,791,000 for the stormwater program, $35,107,000 for the water program, $7,297,000 for the sanitary sewer program, $7,218,000 for the combined sewer program, $11,948,000 for the capital equipment program and $9,166,000 for the Water and Sewer Authority's share of the Washington Aqueduct capital projects. The Committee also recommends the FY 2001 $140,725,000 capital authority request. Further, the Committee recommends that the Authority be expressly authorized to expend funds between projects authorized in prior years' budgets within these seven projects.

Liquid Processing Projects

The following table provides the District of Columbia's Water and Sewer Authorities request for additional capital Authority:

Program (dollars in thousands)	FY 2001 Capital Authority Request
Wastewater	77,372
Sanitary Sewer	1,182
Combined Sewer	0
Stormwater	0
Water	21,450
Washington Aqueduct	39,022
Capital Equipment	1,699
Grand Total	140,725

Wastewater Treatment Program

WASA provides wastewater treatment for the Blue Plains regional service area, which includes Washington D.C. and certain suburbs in Maryland and Virginia. This program provides funding for the projects impacting all treatment facilities within the confines of WASA's Advanced Wastewater Treatment Plant at Blue Plains. Wastewater treatment includes liquid treatment process facilities to handle wastewater flows from the regional service area and peak storm flows primarily from the District's combined sewer system. The wastewater treatment program also includes solids processing facilities to treat the residual solids produced by the liquid treatment process facilities.

Liquid Processing Projects

These projects impact liquid treatment process facilities including the following: headwork facilities that pump and screen the wastewater flows and remove sand and grit particles from the flow; primary treatment facilities that remove solids by sedimentation; secondary treatment facilities that remove organic pollutants using a biological process; nitrification/denitrification facilities that remove nitrogen; and effluent filtration and disinfection facilities that remove solids including phosphorus. These facilities are required to meet WASA's NPDES permit for discharge of effluent to the Potomac River.

Solids Processing Projects

These projects impact solids processing facilities including the following: gravity thickening of primary sludge, thickening of biological waste sludge produced by the secondary and nitrification/denitrification facilities, storage and digestion of all thickened solids streams, and dewatering by centrifuges of all digested biosolids products. These facilities are required to produce a biosolids product that can be reused or disposed of in an acceptable manner.

Plant-Wide Projects

These projects provide for support systems and facilities for both the liquid treatment and solids processing facilities. These systems include a process control and computer system for monitoring and control of all processes and facilities, city and plant water systems, telephone service, data highway infrastructure for process, safety, security and information needs. Facilities are comprised of chemical receiving, storage, transmission and feed systems for chemicals used throughout the liquid and solids processes, including metal salts, polymers, sodium hypochlorite, and sodium bisulfite. Support facilities include WASA's Central Operations facility and Central Maintenance facility.

Sanitary Sewer Program

The collection of wastewater in the District of Columbia and certain surrounding jurisdictions is provided by an existing sewer system that dates back to 1810. The system is comprised of large interceptor sewers and smaller collection sewers that flow by gravity, pumping facilities and pressure sewers and the sewer lateral connections to homes, government and commercial properties. WASA's sanitary sewer program includes new sewer projects to serve development, projects to replace undersized sewers and projects to replace or rehabilitate sewers that have reached their useful life. It also includes projects to replace or upgrade pumping facilities or provide new pumping facilities if needed, and for the renewal of service laterals. Finally, it includes projects made necessary to accommodate the road projects of the District.

In addition to containing already defined projects, WASA's Capital Improvement Program contains funding for sewer assessment and planning. This provides for WASA to perform the needed planning to comply with Federal Regulations, and more importantly, to ensure that the

sewer system is in adequate structural condition and has sufficient capacity for existing customers and for planned growth.

Combined Sewer Program

Approximately one third of the District is serviced by the combined sewer system (CSS). It occupies most of the downtown and "older" areas of the city, and about 200 acres in the Anacostia/Fort Stanton area east of the Anacostia River. This originally built system delivers sanitary sewage during wet weather to the Blue Plains treatment facility. When it rains, run-off from streets and houses in the CSS area enters into the CSS and is delivered to Blue Plains for treatment, but it has limited capacity to do so. During heavy rainfall when the carrying capacity of the system is exceeded, the flow is diverted to streams and rivers in the District. This is called combined sewer overflow (CSO).

WASA's CSS consists of collection systems, diversion structures, pump stations, and control structures. Management of CSS involves operation, inspection, maintenance, monitoring, rehabilitation work and construction of new facilities (capital projects).

CSO is considered a significant source of water pollution in the District, especially to the Anacostia River. In the past, the District has taken some steps to control CSO, but the problem remains. In 1996, EPA adopted the National CSO Control Policy, which requires all CSO communities to implement a set of nine minimum controls (NMC) immediately, and develop a long-term control plan (LTCP) for substantially reducing CSO in accordance with guidelines set in the CSO Policy.

WASA has begun development of the LTCP. The draft plan is expected to be completed in July 2001. Implementation of the plan will follow after public and regulatory review and approval.

Stormwater Program

WASA is responsible for providing facilities for the drainage and conveyance of rainwater from streets and private property to receiving streams. Facilities include catch basins and inlets, collection pipes, major gravity truck sewers, pumping facilities and pressure sewers. Projects in the Capital Improvement Program include correction of local drainage problems, new sewers as well as for the rehabilitation or replacement of existing sewers.

In addition to containing already defined projects, the Capital Improvement Program contains funding for stormwater assessment and planning. This provides the funding for performing the planning needed to ensure that the storm sewer system is in adequate structural condition and has sufficient capacity to provide stormwater management for the roads and properties in the District.

Water Program

The water distribution system includes almost 1,300 miles of water pipelines ranging from 4 to 78 includes in diameter, three elevated storage tanks, five underground water storage reservoirs and four pumping stations. The system includes over 36,000 valves and hydrants. The water distribution system also includes trappings necessary for proper system operation, inspection, and repair, such as main line valves at regular intervals to allow flow control, air release valves to prevent air entrapment, blow-off valves for draining the pipeline, check valves to permit flow in one direction only, division valves to allow transfer of water between service areas during emergencies and fire hydrants. Capital funding for the necessary rehabilitation and replacement of these items is included within the Water program.

Capital projects in the Water Service Area are required to rehabilitate, replace and extend water pipelines, storage facilities and pumping stations, provide service to new developments, maintain an adequate water supply for consumers, provide fire protection, and protect the quality of the potable water.

The current projects under this category include: the replacement of valves, cross connection removal, elimination of dead ends, extension and replacement of small diameter water mains, large diameter watermain rehabilitation, replacement and construction of distribution and transmission mains, and cleaning and lining of water mains

Washington Aqueduct

The Water and Sewer Authority is responsible for funding approximately 42 percent of the capital project costs of the water treatment system at the Washington Aqueduct. The Army Corps of Engineers manages these projects.

Capital Equipment Program

This program provides funds for the procurement of durable equipment items, furniture, vehicles, computers, fixtures, etc., that exceed $5,000 in cost and have a useful life that is greater than three years.

The information provided in the table below provides for the Water and Sewer Authorities FY 1999 – FY 2008 capital Improvement plan by program area:

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

FY1999 - FY 2008 CAPITAL IMPROVEMENT PLAN

PROJECTED SPENDING

(dollars in thousands)

Program	FY 1999 Projected	FY 2000 Approved	FY 2001 Proposed	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Total FY99-08
Wastewater Treatment		70,634	66,407	120,009	168,750	129,227	84,564	63,292	42,208	35,827	848,687
Sanitary Sewer	493	2,026	7,297	9,233	16,238	8,983	4,541	3,188	3,481	3,581	59,061
Combined Sewer	2,344	7,190	7,218	5,410	5,965	19,969	37,196	23,176	4,260	162	112,890
Stormwater	209	1,333	2,791	3,599	5,665	12,984	4,572	1,901	2,063	2,315	37,433
Water	11,988	28,871	35,107	34,699	50,046	37,993	43,846	33,901	21,414	18,781	316,645
Washington Aqueduct		31,039	9,166	5,700	17,290	18,392	23,356	7,862	7,596	8,584	144,542
Capital Equipment	8,290	19,904	11,948	10,359	4,609	4,993	8,021	7,575	8,392	8,071	92,162
Grand Total		160,997	139,933	189,010	268,564	232,541	206,095	140,895	89,414	77,321	1,611,420